



Presentation Summary



- MODIS Instrument Operations
 - Valley Forge data acquisition and processing
- Data Format Issue
- L1B File Format Changes
- MCST Major PFM Unfinished Business



MODIS Instrument Operations



- Viewed MODIS telemetry at GSFC EOS AM-1 Operations Center during first instrument Comprehensive Performance Test (CPT)
 - Telemetry stream successfully flowed from LMMS through EDOS to Operations Center
 - MODIS telemetry pages successfully built by Flight Operations Team (FOT)
 - Telemetry successfully decommutated and viewed on MODIS telemetry pages
- Successfully completed first MODIS Instrument Operations Team (IOT) pre-launch simulation milestone



DATA FORMAT ISSUE



- **THE FIRST ARE LAST** and **THE LAST ARE FIRST**
 - SBRS detector numbering convention not consistent with COTS Earth-mapping conventions
 - L1A rennumbers to COTS-friendly (pixel) order
 - MCST characterization work done in SBRS (detector) numbering conventions

NOTE: All the MCST Look-up Tables (LUTs) are published in the SBRS-detector numbering convention and this detector numbering convention is inverted from the pixel convention used in the MODIS Level-1 products. To investigate an “anomoly” in pixel 7 of Band 10 in L1 product, must look at characterization data for detector 3 of that Band.



Detector Number Convention for MODIS Sensor



	LWIR (abbreviated)							
Band	30	29	28	27	33	34	35	
Scan 1	10	10	10	10	10	10	10	↓ T
	9	9	9	9	9	9	9	
	8	8	8	8	8	8	8	
	7	7	7	7	7	7	7	
	6	6	6	6	6	6	6	
	5	5	5	5	5	5	5	
	4	4	4	4	4	4	4	
	3	3	3	3	3	3	3	
	2	2	2	2	2	2	2	
	1	1	1	1	1	1	1	
Scan 2	20	20	20	20	20	20	20	↓ T
	19	19	19	19	19	19	19	
	18	18	18	18	18	18	18	
	17	17	17	17	17	17	17	
	16	16	16	16	16	16	16	
	15	15	15	15	15	15	15	
	14	14	14	14	14	14	14	
	13	13	13	13	13	13	13	
	12	12	12	12	12	12	12	
	11	11	11	11	11	11	11	

Above numbering convention is SBRS "detector" convention

The arrow shows the track direction, which is the direction of satellite motion.



Pixel Numbering Convention for L1B Product

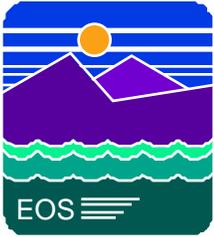


Below numbering convention is L1 Product "pixel" numbering convention

	LWIR (abbreviated)							
Band	30	29	28	27	33	34	35	
Scan 1	1	1	1	1	1	1	1	↓ T
	2	2	2	2	2	2	2	
	3	3	3	3	3	3	3	
	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	
	7	7	7	7	7	7	7	
	8	8	8	8	8	8	8	
	9	9	9	9	9	9	9	
	10	10	10	10	10	10	10	
Scan 2	11	11	11	11	11	11	11	↓ T
	12	12	12	12	12	12	12	
	13	13	13	13	13	13	13	
	14	14	14	14	14	14	14	
	15	15	15	15	15	15	15	
	16	16	16	16	16	16	16	
	17	17	17	17	17	17	17	
	18	18	18	18	18	18	18	
	19	19	19	19	19	19	19	
	20	20	20	20	20	20	20	

Charts showing the SBRS detector (previous chart) and L1 Product pixel (this chart) numbering conventions for consecutive scans at a specific frame or location across scan line, e.g. at nadir. The benefit of the L1 Product pixel convention is the logical progression of samples for mapping software. Sample X from Scan Y is labeled as "X+10*(Y-1)"

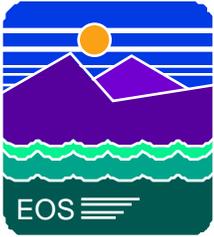
The arrow shows the track direction, which is the direction of satellite motion.



L1B File Format Changes



- All MODIS L2 code developers using SDST developed readers for L1B
- 500m SDS files contain 7 bands, including 2 250m band structures aggregated to 500m resolution
- 1000m SDS files contain 36 bands, including 7 sub-1000m bands aggregated to 1000m resolution
- Band 26 resides in separate SDS file
- Geolocation, with DEM corrections, included in these files as well
- SWIR 500m bands “2nd-sample” recommendation needed from this meeting



MCST MAJOR PFM Unfinished Business SBRS Inputs Needed, status 18 Oct 97



- Stray light (OBC-B, for high scan angles +50degrees and higher)
 - Agree to wait for improved test on FM-1
 - Must have these results before Guenther believes we can ship MODIS to Vandenberg
- SWIR radiometric behavior: Now see two major problems
 - Spectral leak studies underway to show how to live with it for AM mission
 - Sub-sample problem expected to be a focal plane assembly electronics problem we will not be able to fix on either instrument; some chance there is an algorithm fix we can find on-orbit
- SIS round robin measurements
 - Needs to be accomplished
 - Needed before about March '98
- SWIR focal plane will not phase delay for registration (requires six jumper wires on circuit boards, will do it if time in AM spacecraft test program so allows)
 - Scheduled to be done on FM-1; very unlikely it will be done on PFM
- Software for maneuvers -- resolved